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INSURANCE AND THE CALENDAR

By ARTHUR S. HAMILTON

Secretary-Treasurer of The Fraternal Monitor

NINE MILLION members of fraternal insurance organizations in the United States and Canada find certain special considerations of interest and importance to them in the present worldwide movement for a reform of the Gregorian calendar.

We believe that if international action is to be taken in this matter, the 12-month year should be retained.

Any proposal for a 13-month year involves serious difficulties for the fraternal benefit societies. For example, the average member of these organizations makes payments based on a 12-month year. A 13-month year would mean an extra accounting period, and it would necessitate elaborate readjustments of the present monthly rates.

In cases where the payments are not monthly, they are usually quarterly or semi-annually. But a 13-month year is not readily divisible into either halves or quarters. There would be extra expense, extra labor, and a general disarrangement of accounts, statistics and experience tables.

The same arguments apply, at least to a certain extent, to the whole business of insurance, whether through fraternal organizations, mutual companies or stock corporations. Life insurance, in the mutual and stock companies, is largely on a quarterly basis, and there is no doubt that the executives and even the policy holders of these companies would regret

the inauguration of a 13-month year, which would abolish the quarters.

In criticism of this argument, it may be objected by proponents of the 13-month scheme that we are taking a somewhat narrow and selfish viewpoint, when we apply the proposals for reform so single-mindedly to our own personal affairs. But I think any proposal for reform or change ought to be examined in just this intensive way,—how will it affect each separate interest, profession, trade or group? If it will prove a serious handicap to certain branches of the human family, those groups have a right to protest, and to advocate the adoption of some alternative plan.

In calendar reform there is such an alternative plan, which will eliminate all the serious irregularities and inefficiencies of the present calendar, without adding new difficulties and evils inherent in a 13-month plan.

The alternative proposal, as outlined by the League of Nations, is known in America as The World Calendar. It retains the valuable 12-month division of the present calendar. It gives the world a "perpetual" calendar by limiting the ordinary year to 364 days, adding the 365th day as an "extra Saturday" to be known as Year-end Day.

Under this plan, January 1 will always fall on Sunday. The four quarters of the year will be identical, each containing 91 days divided into three months of 31, 30 and 30 days. Thus, January, April, July and October will each contain 31 days; the other eight months will have 30 days each. In each year, forever, any given day will fall on the same day of the week.

The transition from old to new calendars is made simple and easy by the fact that only a few days are changed, and no day is shifted more than two days from its present position.

The plan is well worth study and approval by all those interested in the problems of the fraternal benefit societies. These societies are well aware of the irregular periods and antiquated formula of the present calendar. They know something of the difficulties which ensue from the calendar's shifting character, from its unequal months and awkward quarterly divisions. They recognize calendar disturbances in their finances, their bookkeeping and accounting, their statistical and rate calculations,—indeed in all the fundamental activities of their business.

But they do not want to advocate a type of calendar reform which will actually increase the difficulties of the present arrangement, which will further complicate the calendar instead of simplifying it.

The establishment of a calendar year of 13 months would immediately add one-twelfth—and more—to the labor of the present monthly collections; it would disarrange the whole rate structure and its statistical background; it would confuse and annoy the membership.

The same arguments would apply, perhaps to a lesser degree in some instances, to any business whose rates and operations are on a monthly, quarterly or half-yearly basis. There would be heavy additional expense,

labor and inconvenience in a number of different directions. All such businesses should, I believe, hasten to endorse the proposed World Calendar of 12 months arranged in four equal quarters.

Among leading executives of fraternal benefit societies, there is another point which has been recently brought up, and which has heretofore been insufficiently emphasized by those who have written regarding calendar reform. It is this: the importance to mankind, in changing the calendar, to find a new system that will disturb as little as possible the existing body of statistics and information; that will not reduce the extent to which the average business can guide itself by past experience.

Anybody can think of a lot of calendar "improvements" which might be made,—such as a change in the beginning of the year to make it agree more exactly with the seasons, or a change in the names of the numbered months (September, October, November and December). But these are merely theoretical changes,—there is no practical gain, but rather great economic loss from such trifling with a universal unit of measurement.

No change should be given serious consideration, then, which is not going to be practically beneficial to the great mass of calendar users. And the amount of change should be kept to a minimum. It is not abstract perfection that is wanted, but utility.

The desirability of calendar reform is so obvious to the fraternal benefit societies that it needs no great amount of argument or discussion. But it would be regrettable if a type of calendar reform should be carelessly approved which would increase the troubles of the fraternal insurance organizations, rather than lessen them.

The head of one of the great fraternal societies, after studying the whole problem, summed up his own opinion as follows: "We would like to have a stable and perpetual calendar, in which the weekdays would fall always on the same monthdays, and in which holidays and dates for stated meetings would come on the same days of the week every year. We would like to have the transition from old to new calendars as little disturbing as possible. We would like a change which would not affect existing periods of payment, existing statistics, rates and experience tables. We certainly cannot approve a change which would render more difficult or expensive our problems in connection with the collection of money, contact with our membership, or the scientific adjustment of our rate structure."

DEATH OF PROFESSOR WARREN

PROFESSOR HOWARD CROSBY WARREN, head of the department of psychology at Princeton University, died in New York City on January 4. He had long been interested in calendar reform, and wrote an article on its "psychological aspects" which was published in the JOURNAL OF CALENDAR REFORM. He was 66 years old.

STANDARDS IN TIME

By W. D. CAIRNS

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(From an address to the student body at Oberlin on the occasion of the fiftieth anniversary of the adoption of Standard Time)

A REFORM accomplished and a reform desired. The one refers to the fiftieth anniversary of the adoption of standard time in the United States; the other to the hope held by many that the world may shortly adopt a new and improved calendar.

Even with the play of a lively imagination, it would be hard to realize the confusion that existed fifty years and more ago because of the lack of uniformity in clock time over this country, not to say over the world. When one spoke of noon, by what was called "sun time" or "local time," it meant the instant at which the sun reached the meridian of the observer, an instant which could be determined precisely by an astronomer or surveyor, or which could be determined roughly on a sundial provided the sky was clear.

Now the sun in its westward path each day passes the meridian of New York City five minutes before it passes that of Philadelphia, twelve minutes before that of Washington, 31 minutes before that of Cleveland, 33 minutes before that of Oberlin, and so on. Hence when in the old days the clocks in New York City stood at twelve noon, it was not yet noon in places further west. When Oberlin clocks said noon, it was 12:33 in New York City. Railroads moving east and west solved the problem as best they could and on their own authority. The railroad would designate places, usually division points, at which clocks and watches had to be changed. Train schedules were published accordingly. A railroad station might have clocks showing three different times of day—the time for lines eastward, another for those westward, and a third with the local time for that particular city.

In 1879 a Scotch Canadian, Sandford Fleming, proposed the standardization of these differences in time, and in accordance with his plan the United States and Canada selected a series of "standard meridians" west of Greenwich by 60, 75, 90, 105 and 120 degrees. Since the sun moves westward, as we view it, through one revolution of 360 degrees in 24 hours, it moves on the average through 15 degrees each hour. When it is noon on the Sixth Standard Meridian (St. Louis), it is 1 p. m. on the Fifth Meridian (Washington) and 6 p. m. at Greenwich. The transition from one standard time to another is made, as you know, by steps of an hour, at convenient places approximately midway of the standard meridians.

Official adoption of this system was brought about chiefly through rail-

way officials at a convention in October, 1883. The actual adoption occurred at noon, November 18, 1883. Most other countries fell in line promptly. At present there are, however, four countries which do not use our standard time system—Greece, Holland, Ireland and Russia.

It is difficult for us to realize the opposition, both passive and active, which this change encountered. Those who did not travel and had no business with the railways felt no need for the reform and were naturally apathetic. Some people made a moral question of it. Certain church authorities circulated petitions against it as an interference with God's time. Dr. H. J. Haskell told me last week that when the clock on the Oberlin Chapel was changed to standard time early in the nineties, one of the village fathers wrote a letter to the local newspaper protesting that the clock of Oberlin College should not tell a lie. Professor Churchill, then head of the department of physics and astronomy, replied that because of the difference between actual and mean solar time, the clock had previously been telling a lie every day in the year except at most two. General acceptance of the new time came slowly in many places. In Columbus, for instance, as late as 1905 part of the public clocks still showed local time, and the noon hour began, as we would say, at 11:30.

A change accomplished and a change desired. To introduce the second topic, I might ask you several questions. On what day of the week will next year begin? On what day of the week will your birthday fall next year? What is the date of next Easter? On what day of the month will Thanksgiving fall? These and many similar questions must be answered anew every year, because of the shifting character of our calendar. To remove this shifting character and to arrange that our calendar dates shall be fixed and permanent, is one of the principal aims of calendar reform. I might make the problem concrete and local by referring to the dates of the college Commencement and other important fixtures of the college year, or by calling your attention to how much the date for the opening of the college year may shift: I leave these matters to you as a supplementary exercise.

There is not time to give even a brief account of the fascinating history of the calendar, which would show very clearly that it has been changed very frequently, that it is not a static thing but an evolution. Even the custom of beginning the year on January 1 is comparatively new—as many as 12 different dates have been used in times past as the beginning of the year, and when Easter was used in various European countries, the year used to vary in length from 330 to 400 days.

Two chief plans of calendar reform are now before the world for consideration. These are distinguished ordinarily as the 12-month and 13-month plans.

The advantages of the 12-month equal-quarter calendar are: (1) It

retains the familiar and useful 12 divisions of the year, significant because the number 12 is divisible by 2, 3, 4, or 6. (2) It gives equal quarters of precisely 13 weeks each. (3) The lengths of the months are approximately equalized, each month has 26 working days and is to that extent comparable with every other month. (4) The plan involves a minimum amount of change in habits and customs. (5) It retains the present type of month as a convenient and familiar unit.

The advantages of the 13-month calendar are: (1) Each month has four full weeks. (2) It is necessary to be familiar with only one "form" of monthly calendar. (3) All months have the same weekday composition and are therefore directly comparable. Its disadvantages are: (1) Thirteen is not divisible by 2, 3, 4, or 6. (2) The 13-month calendar is not easily divisible into quarters, and does not offer any correspondence to the four seasons of the year as required by all who must take the weather into account. (3) Superstitious aversion to the ever-recurring Friday the 13th would be difficult to overcome. (4) Historical dates would be disturbed and disarranged, and people would dislike, for example, celebrating Washington's birthday on February 25 or observing the Fourth-of-July on Sol 17th. (5) Recomputations of numerous statistical series and indexes would be costly. (6) The plan involves too severe changes in long-established customs. (7) There would be 13 business closings and an increase of one-twelfth in all bookkeeping and business operations which are on a monthly basis.

In my studies, I have tried to assemble all the arguments for and against each plan, and have reached the clear conclusion that it will be easier to bring about the adoption of The World Calendar, and that this plan will be more useful than the 13-month calendar when once it is adopted.

Eminent authorities in business, science and government are lined up in support of these two plans, not only in America but also in foreign countries. It may require a considerable amount of time before definite parliamentary progress is made toward the adoption of one or the other, but it should be possible right now for any intelligent man to decide which he prefers.

As you know, the year 1933 would have been a suitable year in which to inaugurate either plan. The next suitable year is 1939. Long before 1939, however, I hope each one of my listeners will have decided his preference and will have used his influence to have it put into effect.

We have seen how successfully the agitation for standard time was carried through to accomplishment 50 years ago. The fact that such an important reform was achieved and accomplished, leads me to the belief that the second and more important reform in time will be pushed through to its desirable consummation at an early day.

PRIESTS AND THE NEW PLAN

By EDWARD S. SCHWEGLER, D.D.

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THE NRA (National Recovery Administration), so they have been saying, may produce a more insistent demand for calendar reform. Control of industry requires exact and reliable statistics, and a fixed calendar would assure such statistics much more definitely and accurately than the present illogical arrangement of weeks and months.

Upon receipt of this innocent news certain good people, including some Catholics, hasten to don once again the armor of orthodoxy and sally forth to do battle against the foes of tradition. They are convinced that calendar reform is essentially anti-Christian: that there lurks behind the program of the reformers a sinister plot against Christ and His Church.

Is there any basis for such a supposition? Hardly, in the face of a very simple but little known fact. Many advocates of calendar reform were and are priests. Even more: the fundamental idea of the whole modern reform movement was first conceived by a priest. And the present year, 1934, marks the centennial of the book in which he gave the idea to the world.

Before we go into that, let us advert to what this modern reform movement consists in. Everybody knows the faults of our present calendar: its unequal months, quarters and halves; its constantly changing days of the week for given dates; its wandering Easter. The reformers propose, in the first place, a stable calendar that will be the same in day and date year after year. To bring this about, they take one day from the 365 days that go to make up the ordinary year and simply set it aside, calling it neither Sunday, nor Tuesday, nor Friday, nor any other day of the week. This day, known as the "extra-calendrical" or "stabilizing" day, is made an international holiday at the end of the year. As a result of such an arrangement, you count only 364 days in a year. There are still 365, of course, but you just forget about one when you count, and consider that one as being simply outside the calendar. Since 364 is divided evenly by 7, you get the same succession of dates and days year in and year out: January 1 is always Sunday, December 31 always Saturday, etc. In leap years, when there are 366 days, you repeat this operation: the other extra day, our present February 29, is turned into another "stabilizing" day placed at the end of June. The result, again, is 364 days and permanence.

Quite a clever little trick, isn't it? And practically all modern calendar reformers are agreed on this "stabilizing" day principle, while the League of Nations has advocated it in its recommendations on the subject.

It is beyond doubt the simplest and easiest way of stabilizing the calendar. However, as to the picture that the calendar is to present when stabilized, there is not quite so much agreement. In fact, there is decided disagreement. One camp wants 13 months of 28 days each. Another wants 12 months divided into four equal quarters of 91 days each, the months of every quarter to come in the permanent succession of 31-30-30 days. The former plan is known in this country as the *International Fixed Calendar;* the latter as the *World Calendar.*

Concerning the respective merits of these two schemes we are not here concerned: that angle of our subject has been presented innumerable times, and the results are available in any public library. At the moment we are just getting a general conspectus of the whole matter before finding out in particular what priests had to do with it.

In this general conspectus we must not omit the other cardinal proposal of modern calendar reform, *viz.,* a fixed Easter. That pivotal feast, as we know, now wanders in date through a period of 35 days: March 22 to April 25. Calendar reformers would fix it to one definite Sunday in the year and so have it wander in date only within the limits of a week: or they would like better still to stabilize the calendar first, and then make Easter permanent both in day and in date, so that you could say, for example, "Easter Sunday is April 8," and then have done with the thing for all time to come. Perhaps it's too simple, and too Utopian, ever to come true. It should be well noted, though, that stabilizing the calendar and stabilizing Easter are two separate things. Within the limits demanded by the Sunday tradition, Easter could be stabilized without fixing the calendar, and vice versa.

So there you are in a few hundred words—the whole program of calendar reform that you hear so much about. Now what have priests had to do with that program?

In the first place, priests were advocating a fixed Easter long before modern calendar reform was in its cradle, squawking about the brevity of February. Already in the second century there were not only priests, but whole ecclesiastical provinces that wanted, and had, a fixed date for Easter—like March 5, for example, or April 7. In fact, so great was the diversity of discipline in the Easter question that a great Council, Nice, had to step in and legislate one method of calculation for all parts of the world. The method ultimately chosen was the Roman one, which Catholics have had ever since: Easter is the Sunday after the first full moon following upon the vernal equinox. This method was subsequently sanctioned by various Councils and was reaffirmed in the Gregorian reform of the calendar (1582). But also after the time of the latter a fixed Easter has been advocated by priests. Thus, René Ouvrard, canon of Tours, published at Paris in 1682 a *Calendarium novum, perpetuum et irrevocabile,* in which

a stabilized Easter was a prominent feature. A Father Nau, S. J., followed up his ideas some years later.

But it is not fixing Easter so much as stabilizing the calendar itself that many people think quite new, unheard of and possibly anti-clerical. (In what follows it should be remembered that the proposal to stabilize the calendar invariably includes a proposal to fix the date of Easter, though, as already noted, the two proposals are by no means identical or reciprocal in themselves.) The "stabilizing" day principle especially has aroused much opposition—not so much from Catholics, though, as from Jews, Seventh Day Adventists and other Sabbatarians. The great argument of these latter is that the seven-day week was Divinely ordained by God, and that therefore to break up the regular succession of the Sabbaths would be impious. And this the "stabilizing" day would do: for it would produce one or two weeks per year really consisting of eight days—a direct defiance of the Divine Will in the eyes of these critics.

But it is not so clear that the Creator established the seven-day week. It cannot be maintained that He did so at the creation, for no one knows just how long each of those seven "days" of creation we read of in Genesis lasted. Nor can we say that He established the week in the times of Moses, since the first mention of the Sabbath (in connection with the fall of manna—*Exodus XVI.22*) implies that the day was even then a custom long familiar to the Israelites. That God sanctioned the Sabbath as the day of rest and worship is quite true; but this presents no difficulty to the Catholic, who knows that the Church of Christ made holy the first day of the week instead of the seventh, and who believes that the Church has received authority from God to institute changes and regulations of this kind in matters of discipline.

Yet, whatever one may think of these doctrinal considerations, the fact is that many Catholic priests have advocated the "stabilizing" day principle without being either excommunicated, suspended or even "viewed with dismay." More surprising still, the "stabilizing" day principle was first formulated by a Catholic priest. Credit for originating this extremely clever and simple device is often given to the Frenchman, Auguste Comte, who in 1849 proposed a permanent calendar with thirteen months of 28 days each; also to an unknown Marylander who wrote in the *Gentleman's Magazine* for July, 1845. But the fact is that already in 1834 an Italian priest, Marco Mastrofini, published at Rome a book entitled *Amplissimi frutti da raccogliersi sul calendario gregoriano perpetuo.* (1834 is the correct date for this publication, as a direct perusal of an original copy at the Vatican Observatory will demonstrate. Vol. VI, No. 4 of *The Reference Shelf,* subtitle *Thirteen-Month Calendar,* published by Wilson, N. Y., 1929, incorrectly gives 1835; whilst Chauve-Bertrand, *La Question du Calendrier,* Paris, 1920, gives 1837.) This book of Mastrofini was fortified

by three *Nihil Obstat's* and two *Imprimatur's*. It proposed the following: a year of 364 days, beginning on Sunday, Jan. 1, and ending with a 365th, extra-calendrical day, to be called, if the Church so decided, *feria octava*. In leap years the other extra day would be placed either after February, as in the Gregorian calendar, or after the *feria octava;* and this day would be called simply the *intercalary day*. Easter by this arrangement was automatically limited to five Sundays of definite date—on one of which it might eventually be fixed permanently.

The only detail in which Mastrofini did not anticipate schemes like the modern *World Calendar* was in regularizing the length of the months and making the quarters equal. But these are, after all, lesser details. Mastrofini originated the basic idea of all modern reform, the "stabilizing" day. For this momentous pioneer proposal he has not been adequately honored by the calendar reformers nor sufficiently execrated by the Jews, Sabbatarians and others. The former should canonize him, and the latter burn him in effigy every so often.

The plan of Mastrofini was later advocated by two other ecclesiastics: in 1882 by Msgr. Nicora, Bishop of Como, and in 1894 by the Franciscan Father Castelli, who published a pamphlet entitled *Cinque Pasque sole.*

In 1884 a French priest, the Abbé Croze, chaplain of La Roquette in Paris, went to Rome charged with a mission (presumably by some private group) that had to do principally with the fixing of the Easter date. He was told that first the astronomers would have to come to an accord concerning a civil calendar, and was advised to consult the Institute of France.

In 1888 a Barnabite, Father Tondini de Quarenghi, took up the idea of calendar reform and propagated it especially among the Slavs, in whose languages he was well versed.

In 1912 Father Gabriel Nahapetian, a Mechitarist of Venice, published in several Italian magazines a proposal for a fixed, 12-month calendar with "stabilizing" days and a stabilized Easter; and in 1913 the Armenian Press at S. Lazzaro, Venice, where these Armenian monks have their headquarters, published a pamphlet by the same writer in which a 13-month calendar with "stabilizing" days was explained.

In the 12-month calendar of Father Nahapetian the year begins on Sunday, January 1; there are four quarters consisting each of 30-30-31 days. The yearly "stabilizing" day comes in at the end of August; the "stabilizing" day of leap-year is inserted after February. This scheme, it will be seen, with the quite accidental exception of location of "stabilizing" days and the relative position in each quarter of the 31-day month, is similar to the *World Calendar* now widely advocated in the United States, and in other countries under different names.

In his 13-month calendar Father Nahapetian introduces his yearly "stabilizing" day after December, and his leap day (called "Bissextile

Day") after the thirteenth month (called "Ararat"), which he interposes between August and September. In essence this is the same as the *International Fixed Calendar*, of which Mr. George Eastman was so sturdy a supporter.

Now, it is interesting to note that Father Nahapetian claims to be the originator of both these schemes. He says, in an introduction to a pamphlet published at S. Lazzaro in 1923: "We insist only upon the priority of our publications without declaring that others have plagiarized from us, and we desire only to bring it to the notice of those called upon to pass judgment." However, it is doubtful whether the good Father can insist on such priority of publication. The "stabilizing" day principle surely originated with Father Mastrofini's book of 1834. Further, a 12-month, equal-quarters plan with "stabilizing" days was formed by a M. Armelin already in 1887, when it took first prize in a competition fostered by the Astronomical Society of France. It differed from Father Nahapetian's plan only in such incidental details as the day on which the year begins, or the location of the extra-calendrical days. Similarly, a 13-month calendar with "stabilizing" days was formulated, as already mentioned, by Auguste Comte in 1849. It is therefore hard to see how Father Nahapetian can lay any claim to priority in the matter.

In 1920 a French priest, the Abbé Chauve-Bertrand, published at Paris, with a *Nihil Obstat* and an *Imprimatur* from the episcopal chancery at Nevers the book already referred to: *La Question du Calendrier*. The abbé had published various articles on the subject before this, and had taken part in the international congress that considered calendar matters at Liége in 1914. In 1922 he took part in the sittings of the Commission on the Reform of the Calendar established by the International Astronomical Union. In his invaluable little book M. Chauve-Bertrand gives a thorough review of his subject, and expresses a preference for the 12-month, equal-quarters plan with a fixed Easter.

Cardinal Mercier, Archbishop of Malines, was much interested in the question of calendar reform. In 1922 at Paris he presided over the commission mentioned in the previous chapter. Later, however, the Cardinal retired from this presidential position because he did not feel himself sufficiently well grounded in astronomical matters to be of much use to the astronomers.

In 1923 the Italian Jesuit, Father G. Gianfranceschi, professor of physics and astronomy at the Gregorian University, Rome, began to represent the Holy See in a semi-official capacity at the discussions of calendar reform inaugurated by the League of Nations. In the following year the Holy See made an official answer to the League of Nations queries through the Apostolic Nuncio at Berne, to the effect that the Church saw no good reason for changing the present state of affairs, but that there was no dogmatic

difficulty about a modification of the calendar, and if this were shown to be of sufficient importance to the general good, the Holy See would refer the matter to an ecumenical council. In speaking of this statement afterwards, Father Gianfranceschi said that "the Church of Rome would never hold aloof from anything which concerned the welfare of humanity."

The names of many other clerics have been identified with calendar reform. Still remaining on the other side of the water, we find, for example, the Abbé Th. Moreux, director of the Observatory of Bourges, France, who was mentioned at the International Congress of Chambers of Commerce, held at Prague in 1908, as an outstanding authority on calendar studies; the Abbot of Farnborough, Dom Cabrol, who in 1912 discussed the whole question very thoroughly in *The Tablet* (London) ; and the Rev. Luchesius Semler, O. F. M., of Holland, who has written emphatically in favor of calendar reform.

Coming now closer to home, we find that American priests have also taken a great interest in proposals to reform the calendar. In 1905 the Rev. George M. Searle, of the Paulists, described a scheme of reform in *The Catholic World.* His plan depended essentially on the intercalated week: normal years would contain 52 weeks or 364 days, whilst each fifth year (with certain modifications) would have an extra week, and therefore consist of 371 days. The modifications so curtailed the intercalation of the fifty-third week that in 400 years the week would occur nine times less than it should according to rule. More specifically, all years ending in 5 or 0 had the extra week, except those ending in 00, 50, and the last year of each 400 period ending in 75. The net result is 20,871 weeks every 400 years, and exactly that many weeks are produced in 400 years by the Gregorian calendar with the present leap day intercalation.

Father Searle's scheme is quite original and felicitous, of course, in one way; but from other angles the intercalated week offers many obstacles, one of which is that the equinoxes are continually wandering over periods of several days.

In 1912 the Rev. H. T. Henry, Litt. D., of Overbrook Seminary, Pa., wrote several articles on calendar reform for *The Ecclesiastical Review,* a publication designed solely for priests. After reviewing the subject very completely, Dr. Henry concluded (Dec., 1912, p. 732) : "Altogether, the agitation (for calendar reform) does appear to be one made, not against any religious tradition or conviction, but in favor of a civil or commercial reform of the calendar. Throughout the discussion of the subject, the commercial and civil betterments sought have been exclusively emphasized; and the religious side of the question—one which could not be ignored—came into the discussion, not as its prime motive, but rather as a circumstance demanding most careful consideration. Into the hidden motives of men it is not easy, at all times, to pierce. But the outward, superficial

activities appear to be, in this matter of calendar reform, sufficiently innocent of malicious purpose."

With this conclusion of Dr. Henry, applied also to the state of affairs today, the present writer is in thorough agreement. He has had occasion to deal with the most authoritative proponents of calendar reform in the United States; and all such dealings have been signalized by the utmost courtesy, helpfulness and consideration, together with an evident anxiety to respect the opinions and standpoints of religious groups, and especially of the Catholic Church.

The priesthood in Canada has also made a contribution to calendar reform studies. In 1913 the Abbé H. Jeanotte published at Montreal *La Réforme du Calendrier,* which favored retention of the present calendar along with the introduction of an auxiliary reformed calendar for economic purposes.

In the last few years the Rev. James A. Colligan, S. J., of the University of San Francisco, has published several brochures on calendar reform. The plans, whether for 12 or 13 months, to which Father Colligan gives his preference, agree substantially with the intercalated week as proposed by Father Searle. The intercalation is merely on a different plan: an extra week is added to "every year having its last or its last two numbers divisible by 6," and also to every year ending in 99 and to every centennial year not divisible by 400.

In 1929 the late Father Tondorf, S. J., published in *The Ecclesiastical Review* a general survey of calendar reform matters, especially in their application to the Easter date.

Doubtless more names of priests might be mentioned in relation to calendar reform; but those here set down are the most prominent. It is needless to state, naturally, that not all priests approve of the new proposals. It is also characteristic that, when they do so approve, they tend towards the conservative, either supporting a scheme that does not break the continuity of the Sabbath, or else for the most part, accepting the "stabilizing" day principle in a plan that keeps, as much as possible, the calendar to which we are accustomed. In this latter connection it is interesting to note that a number of prominent priests and bishops have voluntarily sent in their names to the *World Calendar Association,* which, we have seen, advocates a 12-month, equal-quarters plan with "stabilizing" days. Such action need not of necessity show outright advocacy of calendar reform; but it does demonstrate a live interest in the question and a conviction that the proposals for reform contain nothing objectionable from a dogmatic standpoint. Among these names, a list of which is published in each issue of the *Journal of Calendar Reform,* are the following: Paul A. McNally, S. J., Director, Georgetown College Observatory; Most Rev. Karl J. Alter, Bishop of Toledo; Rev. A. M. Guenther, S. J., Principal, Fordham Prepara-

tory School; Rev. Edward Lodge Curran, President, International Catholic Truth Society; Rev. Alcuin Deutsch, O. S. B., President, St. John's University, Collegeville, Minn.; Hugh M. Duce, S. J., President, Loyola University, Los Angeles; Very Rev. Mathias Faust, O. F. M., Provincial, New York; Most Rev. Thomas K. Gorman, Bishop of Reno; Most Rev. John T. McNicholas, Archbishop of Cincinnati, etc.

What, then, does all the foregoing prove? That the majority of priests want a new calendar? Not at all. That the Church wants to reform the calendar? Still less. But it does mean that numerous men, well grounded in Catholic theology and outstanding for ability and scholarship, have not only been interested in, but have approved of and even ardently advocated, a reform of the calendar. And it therefore means that Catholics may publicly discuss the question and may give their adherence to one or other current schemes at least until such time as the Church shall forbid them to do so or definitely produces a program of her own.

It is true that the Church has not as yet looked with much official favor upon proposals to reform the calendar, especially as they touch upon the Easter question. But this should simply spur on Catholic proponents of reform to new activity, for the Church will naturally not change her traditional attitude if the demand for such change is not insistent. Nor, we may be sure, will she approve of any plan that is too radical and too subversive of our heritage from the past. For this reason it seems more preferable by far for Catholics to advocate the 12-month equal-quarters plan rather than the 13-month scheme. The former is more conservative, it is more conformed to the traditional pattern, it would fit in better with the ecclesiastical calendar, and it has some very solid, intrinsic merits of its own.

TIME'S HARMONIES

By Marguerite S. Cummings

The world today is striving for Calendar Reform,
It sees that ancient systems are "grievous to be borne";
Simplicity, convenience, proportion sane, its aim,
A twelve-month year divided in four quarters, just the same.

With January, April, July, October, too,
Possessing thirty-one days each—the months that then ensue
Boasting an even number of thirty days, contrive
With one more added at the end, to make 365.

This stabilizing Year Day is called December Y
And provides for relaxation or a time for worship high;
The Leap Year extra day we find appended to our June—
Leap Day, its appellation, and our calendar's in tune!

It is practical, efficient, economic, and must grow
In estimation daily as its benefits bestow
On mankind's needs a blessing. . . . And our thanks we here express
For the work you've done in bringing Time's harmonious redress.

STORY OF THE CALENDAR

By David Thibault

This is the last of a series of articles in which the author traces the evolution of the calendar from its earliest beginnings to the present time. His studies aim particularly to draw from this evolution the conclusions most important in the current discussions.

X

IF THERE is "no rest for the wicked" in this imperfect world, there is even less repose for an institution which contains fundamental inaccuracies. Our morals may be faulty, but our love of order and precision is as spontaneous, persistent, and dominating as our love of right.

And for that reason the present-day world produces men and women who are very little more content with the Gregorian calendar than Gregory was with Julius Caesar's, or Caesar himself with the muddled reckonings which he straightened out.

Why? Because the Gregorian calendar is not itself perfect. Science finds grave defects in it, and the "wandering" of Easter from March 22 to April 25 is intolerable in a commercialized, orderly world.

The Gregorian year is reckoned to be in length, 365 days, five hours, 49 minutes and 12 seconds. But modern science points out that actually the mean length of a solar year is 365 days, five hours, 48 minutes and 46 seconds. Therefore Gregory's solar year exceeds the true year 26 seconds.

Twenty-six seconds is not a long period of time. If we miss a train by so little, we are inclined to feel that the fates have conspired against us for our discomfiture. If a safe falls from the twentieth story of a building 26 seconds after we passed under it, we are likely to see an act of providence in so narrow an escape. And even the most impatient of us can wait 26 seconds for an important interview, a seat on the subway, dinner, or for the play to start. In each of these incidents the tiny period of time, 26 seconds, seems small and inconsiderable because it stands alone, set apart from the flowing stream of all time that was, that is to be. But multiply an error of 26 seconds a year by all the years that have been since Gregory's time, and by all the years that are yet to be, and the product becomes large enough. Certainly it becomes large enough to be frowned upon by exact astronomers and chronographers. In 3,323 years, that 26-second error becomes a whole day. Science offers a remedy here in the form of an improved rule for intercalating—that is, inserting—leap-days over a long period of time. Briefly this would consist of making the year 4000 and all of its multiples common years.

The foregoing has been set down to illustrate that Gregory's calendar is not, scientifically considered, perfect. The 26-second error, however, is

not the most serious fault in our present calendar. Viewed from the business man's needs, from social, financial, and statistical requirements, it is even less perfect. The quarters of the Gregorian year are unequal. The months vary in length from 28 to 31 days. The whole calendar "wanders," so that every year it is different. Easter, an important annual fixture, may come anywhere within a period of 35 days.

The economic advantages of a fixed Easter, of a year with equal quarters, of a calendar which would permit closer comparability of given days in different years, are highly desirable from the viewpoint of all mankind.

Thus we arrive at the threshold of modern calendar reform. Let us describe the two major systems of calendar reform now offered.

The World Calendar is a 12-months perpetual calendar, in which the year is divided into equal halves and quarters. The quarters consist of three months each; the first month has 31 days, the remaining two months in each quarter have 30 days. Each quarter contains 13 weeks, or 91 days. Thirteen days in each quarter are Sundays, 78 are weekdays. The odd 365th day of the year is placed between December and January, and is designated as Year Day. The 366th day in Leap Years is set between June and July. To quote the sponsors of this calendar: "Astronomical conditions are recognized and the quarterly divisions of the year conform to the four seasons. Religious customs are respected and upheld. Holidays are stabilized and placed on Monday wherever possible." Under the World Calendar plan, Easter would become a stabilized feast.

The International Fixed Calendar plan provides for a year of 13 months of 28 days each. The 13th month, "Sol," would be inserted between June and July. The 365th day of the year would be called Year Day, and Leap Day would be inserted between June and Sol. Easter would be fixed.

XI

The history of the present movement for calendar reform is excellently summarized in a brochure written by Miss Elisabeth Achelis:

"In 1834 an Italian, l'Abbe Marc Mastrofini, made the proposal to commence every year with a Sunday and suggested that the last day of the year be without a week name. In 1849 a Frenchman, Auguste Comte, conceived the 13-month calendar plan and introduced the two stabilizing days as the last day of the year and Leap-year day. In 1900 an Evangelical conference considered calendar changes; in 1908 a bill was placed before the British Parliament for reform; in 1910 Congress of European Chambers of Commerce met in London proposing an international conference. More recent developments relative to calendar reform show a definite movement forward with important international conferences held and pending."

In 1923 a committee was appointed by the League of Nations to consider the reform of the calendar. In the British Parliament of 1928, a bill

was passed authorizing the British government to proceed with negotiations for the stabilization of Easter, as an initial step in calendar reform.

On the suggestion of the League of Nations in 1927, national committees on calendar reform have been organized in many countries. In August, 1929, a Committee submitted a report to the American Secretary of State. In September, the League of Nations passed a resolution to place calendar reform on the agenda of the next General Conference of Communications and Transit. This general conference was scheduled for 1931, and was duly held, with delegates from 44 countries in attendance. Two resolutions were passed. The first was a wholehearted endorsement of Easter stabilization. The second dealt with the general subject of calendar reform. In plain English, free from the "whereases and whyfors" of diplomatic language, the Conference believed the time was not yet favorable for proceeding with a modification of the Gregorian Calendar.

Exponents of calendar reform might shrug their shoulders and point out that no time in history, whatsoever, has ever been favorable for reform of any kind. One can imagine the Roman howls which went up when Julius Caesar undertook, with Sosigenes, to set his contemporary time-reckoning system in order. The sound reforms of Gregory met with like resistance—they were not accepted by England for 168 years.

In fact, the slow acceptance of the obviously meritorious Gregorian calendar illustrates that worth-while reforms in this field, as in many others, are brought about by two distinct phases of action. First, there must be a plan devised which is better than the one which at the time of the suggested change, is being used universally. Second, consistent and patient educational work must prepare the public to think fairly of the suggested reform, and to accept it.

Modern calendar reform is well through the first phase outlined in the foregoing paragraph. Two plans of reform, each of which has distinct advantages over the present calendar, are available. The movement is now well into the first stages of the final phase, which must be devoted to interesting the public in the calendar, then in calendar reform, and finally in some special method of calendar reform. And the future? The change from the role of historian to that of prophet is a violent one. But we venture to predict that the present calendar will be changed, eventually, for a simpler, more accurate one. Opposition has meant merely temporary delay to any movement which had a sound scientific or economic reason for going forward. Calendar simplification has both scientific and economic reasons for being. Besides, it is that inevitable "next step forward" which mankind has always willingly or unwillingly taken—which life was urged relentlessly to take before mankind existed, which the cycle and rhythm of Time itself takes, has taken, and has hammered into each cell of us since Time was.

WORLD'S WORK OR WORLD'S LIFE

By P. W. Wilson

In this article Mr. Wilson, leading book reviewer of the New York *Times*, reviews a book just published by Richard G. Badger, of Boston, entitled "The World's Work and the Calendar." The book is written by Meredith N. Stiles, American secretary of the International Fixed Calendar League and a leading advocate of the 13-month plan of revision.

AS American Secretary of the International Fixed Calendar League, Mr. Meredith N. Stiles in his book expounds, clearly and concisely, the case for what he understands to be a suitable reform of the calendar. It is with a friendly, if discriminating mind that we have read his exposition, and we are happy to discover a measure of common ground. Over the anomalies of the existing calendar, so lucidly set forth by Mr. Stiles, there cannot be, at this time of day, any serious controversy. With the general plea that these anomalies ought to be adjusted, we are in hearty agreement. That plea cannot be expressed too strongly.

The difference between Mr. Stiles and ourselves is simple. He can see no year save a year of thirteen months. We have considered the possibility and the advisability of adopting that year; and after weighing the evidence, we have decided against it on both grounds. The year that we advocate would be divided into twelve months, arranged in equal quarters.

Mr. Stiles contends that this is to "pass on to posterity a calendar still inadequate instead of a calendar as nearly perfect as this enlightened century can devise." He suggests that "a demand will again arise for a change."

We cannot share his forebodings. The idea that mankind is in a kind of revolutionary ferment against the calendar, only to be appeased by extreme measures, does not accord with the facts as we all know them to be. There is a real desire that a more reasonable calendar be adopted. But it must be arranged with a minimum of inconvenience; nor, as we think, does Mr. Stiles adequately realize that the opportunity for doing what can be done is here and now. It is in the year 1939 that January first falls on a Sunday. That is the suitable year for adopting a new and logical calendar; nor will Sunday again fall on January first until the year 1950, which is a long time ahead! It would be more than a pity if the next few years were to be wasted on what, after all, is crying for the moon.

It is thus with a full sense of responsibility that we have read a little book which brings the brief for a 13-month calendar up to date. Does it contain new material to modify our attitude? To the views of Mr. Stiles, we have a genuine desire to give the friendliest possible attention.

Take first the title of the book. The thesis is presented as "the world's

work and the calendar" and we shall be asked what is wrong with that? The answer is that the world does not merely "work" nor is the calendar merely a convenience of those who do "the world's work." There is a larger landscape to be envisaged than the highly organized plants and railroads on which Mr. Stiles concentrates his arguments. "The world's *life* and the calendar"—that is what has to be envisaged—the world's play, the world's homes, the world's romances and the world's altars. The day when captains of commerce, however able and however benevolent, can dictate to families how they shall observe their domestic anniversaries and date their cards of greeting, has yet to come. There is a literature outside the ledgers and there is an art that accountants do not audit.

Mr. Stiles may dismiss these considerations with a gesture of impatience as merely academic. We have to say quite plainly that there could be no greater mistake. In this book, two long chapters are devoted to the opposition of the Sabbatarian faiths which are hostile to any idea of a Year Day. How does Mr. Stiles—following other 13-month advocates—deal with these minorities? Instead of trying to conciliate this opposition, he thinks by sheer force of ridicule and abuse to over-ride it.

His attitude towards religions in which he does not happen to believe reminds us of the Walrus and the Carpenter "walking hand in hand"—

> They wept like anything to see
> Such quantities of sand.
> "If this were only cleared away,"
> They said, "it would be grand."

Indeed, they discussed a plan for clearing the sand from the sea-shore.

> If seven maids with seven mops
> Should sweep for half a year:
> "Now do you think," the Walrus said,
> "That they would sweep it clear?"
> "I doubt it," said the Carpenter,
> And he shed a bitter tear.

The sand remained. So will the claim of the spiritual over the material.

Whether in India or Italy, in Germany or Ireland, religion is a factor that no statesman dares to ignore. It is a factor that operated thousands of years before the oldest factory was imagined, and it will continue to operate thousands of years after the latest factory has been scrapped for the junk heap. Every business man of reverent soul knows it.

Mr. Stiles could scarcely have been more indifferent to the susceptibilities of the Sabbatarians. They are classified by the depreciatory word, "religionists." Even the Jews are included among "these three sects,"—the word "sect" being in their case wholly inaccurate. Certain interpretations of Genesis are declared to be contrary to science, and we have this kind of thing: "As a further inconsistency it (the Bible) points out that God's

seventh day was Adam's second day: God's rest day after six days of labor was Adam's rest day after less than one day of labor. Science and plain common sense both object to a divine example so poorly arranged that the parents of mankind had to violate it at the start."

It is the kind of thing that was written by Ingersoll and Bradlaugh, and proclaimed from the housetops by Lenin and Trotsky to whom religion was "the narcotic of the people." In the statesmanlike presentation of the case for a better calendar, such controversy should have no place.

The attack on the Seventh Day Adventists is pressed yet further. Here is a law abiding and self-sacrificing community which, according to Mr. Stiles, contains 300,000 people, yet raises $40,000,000 a year for spiritual and social purposes, or $133 per head. These absolutely innocent families are brusquely taken to task for their "grotesque and terrifying program." And, also we have conciliatory allusions to "scenes of religious delirium—wild prayer meetings and religious parades," with similar references to the Flood, and Noah's Ark filled with "kangaroos from Australia, gorillas from Africa, armadillos from South America, and penguins from the Antarctic." Calendar Reform, as we understand the problem does not require the adoption of any such attitude toward dissentients. In a world which some people would reduce to a standardized secularism, the Sabbatarians, with their special beliefs, are deserving of deep respect and every possible consideration. They are among the trustees of individuality.

On one detail, Mr. Stiles must expect rejoinder. In their objections, the Sabbatarians, we are told, "made decidedly questionable claims" to represent "the rest of the religious population." But has Mr. Stiles himself been on guard against such inadvertent lapses into similar "questionable claims?" The National Committee on Calendar Simplification for the United States which appears on the title page, was entirely unofficial. In "international" and "national" activities, there has been nothing to commit any nation—or the League of Nations—to the 13-month calendar.

Mr. Stiles is aware that any firm can pay wages and calculate returns by the week; and there are 52 weeks in the year. It follows that any firm can, if it wishes, group its returns in thirteen periods, each of four weeks. No Calendar Reform is needed for that. No Calendar Reform that we have advocated will prevent it. According to Mr. Stiles, 400 firms in the United States are doing it at this moment. But the question that here arises is much more serious than Mr. Stiles allows himself to suppose. A 13-month calendar obliterates quarters and half years. Mr. Stiles seems to think that this does not so very much matter. Let us see.

He claims the British railways as 13-month advocates. What are the facts? Railway reports in Great Britain have always been six monthly and, with the 13-month calendar, those reports and balance sheets would be impossible.

Take these 13-month firms in the United States. Presumably, many of them have their shares and bonds quoted on Stock Exchanges. What has Mr. Stiles to say of the legislation before Congress at this moment acccording to which every such firm will be compelled by law to publish quarterly statements of its operations? Take the income tax. In the United States, much of it is paid quarterly. Under the 13-month calendar that would be awkward or impossible. For the 13-month plan abolishes quarters. City taxes are frequently paid half-yearly. So with mortgages, 90-day bills and so on.

We were most curious to discover what Mr. Stiles would say on these interesting topics. But we do not seem to find any helpful allusion to the details, which are too insignificant, apparently, to be listed. Let us not be, however, under any illusion. In any legislature where calendar reform is debated, difficulties will have to be faced, not evaded. People who use the quarter and half year, numbering scores of millions, in this country alone, will demand very clear reasons why, by law, they shall be debarred from an obvious convenience.

Our estimate of this book is thus critical, if also appreciative. We admit that it makes, like the 13-month calendar itself, a plausible first impression. But no bill passes into law at first reading. Of thousands of bills thus introduced, a mere handful reach the statute book. It is not the start in the race that wins. Victory is on the last lap.

EVOLUTION NOT REVOLUTION

By HENRY W. BEARCE

U. S. Bureau of Standards

(An address before the American Statistical Association, Philadelphia, Dec. 28, 1933)

OF THE many plans that have been proposed for revising the Gregorian Calendar, only two now appear to have any reasonable chance of adoption. For convenience these may be designated the 12-month equal-quarters plan, and the 13 equal months plan. The first is advocated, in the United States, by The World Calendar Association, Inc., of 485 Madison Ave., New York City; and the second, by the International Fixed Calendar League, with headquarters at 343 State Street, Rochester, N. Y.

My own preference is for the 12-month equal-quarters plan, and I am glad of an opportunity to speak in favor of that plan.

In considering any subject, with a view to improving conditions, two questions are inevitably raised; first, what is wrong with the present situation? and second, what can we do about it? These questions have been so often raised concerning the calendar that I am sure you all know the answers by heart. I will mention some of them, however:

1. The tropical year does not contain an integral number of days. This is a matter beyond the control of man; the best we can do is to adopt a calendar that will, on the average, keep the calendar year and the tropical year very nearly equal. This requires the application of a suitable leap-year rule, which can be done equally well under either of the above plans.

2. The calendar year does not contain an integral number of 7-day weeks. The ordinary year contains 1 day and the leap-year 2 days in excess of 52 weeks. This incommensurability of the calendar year and the 7-day week results in a constantly changing calendar, with consecutive years beginning on different days of the week. This is very upsetting to school schedules, dates of meetings falling on a given day of the week, and weekdays of events falling on a given date. This serious defect can be overcome only by some plan that will include the one extra day of each ordinary year and the two extra days of each leap-year within the integral weeks with no remainder. It can be accomplished equally well under either of the above plans.

3. The calendar year is not divisible, by months, into halves and quarters of uniform length. This defect can be corrected under the 12-month plan.

4. The months are of unequal length, and irregular arrangement. This defect can be partially corrected under the 12-month equal-quarters plan, and fully corrected under the 13 equal months plan.

5. The months, in general, do not contain an integral number of weeks.

This particular defect can be corrected under the 13 equal months plan.

6. The dates of Easter and other "movable festivals" are not fixed. These dates may be fixed under either plan.

The above principal defects are more or less closely inter-related, and out of them flow a wide variety of secondary defects or inconveniences. For example, from the fact that consecutive years begin on different days of the week, it follows that corresponding months of consecutive years begin on different days of the week, and are not comparable because of the different distribution of the various days of the week, the days being of quite different economic or business value. For example, Saturday may be the "big day" in one line of business, Sunday in another line, and Monday or some other day of the week, in still other lines. An extra Saturday in a given month, as compared with the same month in another year, results in seriously distorted figures if two such months are compared without proper adjustment.

For example, October, 1932, had 5 Saturdays and 5 Sundays; October, 1933, 4 Saturdays and 5 Sundays; October, 1934, will have 4 Saturdays and 4 Sundays. Taking, as an illustration, football statistics on attendance and income, October, 1932, with 5 Saturdays is not directly comparable with October, 1933, or October, 1934, both of which have 4 Saturdays. On the other hand, for church attendance and income, October, 1932, with 5 Sundays, is comparable with October, 1933, but not with October, 1934.

Similar lack of comparability of corresponding months of consecutive years applies to all lines of endeavor—street railway and subway systems, railroad passenger and freight transportation service, sales receipts of department stores, and so on.

As already pointed out, corresponding months can be made comparable by the adoption of any plan that will make the calendar perpetual, so that the same month is always of the same length and always begins on the same day of the week. So far, then, there seems to be little choice between the two plans of revision. Either plan, if put into effect, would overcome most of the worst defects of our present calendar.

In order to make a wise choice between the two plans, we must, therefore, give consideration to other aspects, for example, to the disadvantages of each plan. That is, the 12-month equal-quarters plan, and the 13 equal months plan should be judged by their defects as well as by their virtues; by the new faults they would introduce as well as by the old faults cured.

It has been shown that under the 12-month plan everything can be accomplished that can be accomplished under the 13-month plan except that under the 12-month plan the months cannot be made of equal length, and each month cannot be made to contain an integral number of weeks. Just how important this exception is, is a matter of opinion based largely upon the use to which the calendar is put. To certain statisticians who wish to

split the months into even weeks with no remainder, it is tremendously important; to the rest of the world it is of practically no importance.

Because of seasonal differences and differences in the distribution of holidays, the different months will not be comparable even if of equal length. It is only the corresponding months that will be comparable—July with July, August with August, etc. So, even from the standpoint of statistics, it makes little difference whether or not the several months are of the same nominal length.

Under the 12-month equal-quarters plan, the first month of each quarter would have 31 days, with 5 Sundays, and the other two months of each quarter would each have 30 days, with 4 Sundays. So each month, whether of 31 or 30 days, would have 26 week-days and would therefore, for many purposes, be as directly comparable as would the 28-day months of the 13-month plan. For many other purposes the 31-day and 30-day months would not be comparable, for the same reason that the 28-day months are not comparable, as already pointed out.

In several important respects the 28-day months of the proposed 13-month calendar would be very much inferior to the 31- and 30-day months of the proposed 12-month plan. The 28-day months would not be comparable with any of the months of our present calendar, except February of non-leap years, whereas the 31- and 30-day months would be directly comparable, month by month, without adjustment, for 6 months out of the 12. For 5 other months the difference from our present calendar would be 1 day, while for February the difference would be 2 days.

Another important defect of the 28-day month is that it would result in a serious displacement of the periods represented by the individual months. Beginning with a displacement of 3 days at the beginning of February this displacement would increase until it reached a maximum of 14 days at the middle of the year, after which it would decrease month by month until it became zero at the end of the year; or more strictly speaking, at the beginning of the next year.

The value of statistics is measurable in terms of the extent to which they permit accurate comparisons to be made between the figures for current production, sales, or other activities, for a given period, and similar figures for corresponding periods of the past. In order for the comparison to be of value, periods must be the same or reducible to the same basis.

Of what value, for example, would figures be for the period June 1 to June 28, Sol 1 to Sol 28, and July 1 to July 28, as shown on the 13-month calendar? The first period corresponds to May 21 to June 17 on our present calendar, the second to June 18 to July 15, and the third to July 16 to August 12. We have no production, sale, or other figures for these periods. How, then, can comparison be made? Obviously they cannot.

If we were to adopt the 12-month equal-quarters calendar, the average

displacement of dates from their position in our present calendar would be about two-thirds of a day, whereas, if we were to adopt the 13-month plan, the average displacement would be more than seven days. That is, on this basis the 13-month plan is eleven times as bad as the 12-month plan.

Another serious defect of the 28-day month is that in adopting it we should be obliged to discard, or change, all dates now falling on the 29th, 30th, or 31st of any month. These dates, some of them at least, have a sentimental value to most of us which we would not willingly sacrifice, and which could not be carried over to some other equivalent date. Birthday anniversaries, wedding anniversaries, etc., fall within this group.

In this connection let us not forget the June bride. From her point of view it would be little short of tragedy if we were to mistreat and macerate her sacred month by cutting off two days, and then add insult to injury by calling half the remainder by a new name. I am, indeed, moved to break out in poetry in her behalf:

The June Bride's Lament

Oh cruel fate! Oh bitterness and gall!
That I who wed in June should learn too late
That it is only Sol!

These sentimental objections to the 13-month calendar, both serious and not so serious, may be regarded by the cold statistician as unimportant. Such "affairs of the heart" must, however, be considered. There are more June brides than statisticians.

In addition to the displacement of periods represented by given dates, and the dropping of certain day-dates now in the calendar, the adoption of the 13-month plan would necessitate the addition of 28 new dates.

It is admitted, of course, that even under the proposed 12-month equal-quarters plan, a few dates would be lost and a few new dates would be added, but the changes would be very much less than under the 13-month plan. A comparison of the two plans in this respect, will be of interest:

Days lost:

(a) Under 12-month plan:
Mar. 31, May 31, Aug. 31, Dec. 31 — Total: 4.

(b) Under 13-month plan:
Jan. 29, 30, 31, Feb. 29, Mar. 29, 30, 31, Apr. 29, 30,
May 29, 30, 31, June 29, 30, July 29, 30, 31, Aug. 29, 30, 31,
Sept. 29, 30, Oct. 29, 30, 31, Nov. 29, 30, Dec. 29, 30, 31. Total: 30

New days added:

(a) Under 12-month plan:
Feb. 30, Apr. 31. Total: 2

(b) Under 13-month plan:
Sol 1 to 28. Total: 28

Still another objection to the 13-month calendar is that its adoption would make necessary an extra closing of all accounts rendered on a monthly

basis, and thus would add 8 1/3 per cent to the clerical, postage, and similar costs of doing business. In addition to this, in all cases where quarterly and semi-annual statements were required, three other extra closing dates would be necessary, since not one of the first three quarters of the year would end at the end of a month.

A further objection to the 13-month calendar is that its adoption would necessitate new rules and tables for calculating interest and discounts. This would make difficulties for everybody, from school-children to bankers.

The case against the 13-month calendar may be summarized as follows:

1. It would be a backward step; in effect a reversion to the lunar calendar which was discarded more than 2000 years ago.

2. It is too radical a change to meet general public approval.

3. Thirteen, being a prime number, is divisible only by itself and 1, and would result in a year which could not be subdivided, by months, into halves and quarters.

4. All dates above 28 would have to be discarded.

5. A new month would have to be added.

6. Statistics based on a 28-day month would not be comparable with accumulated statistics because: (a) The new months would be of different length from the old; (b) The periods represented by the new months would be displaced from those of our present calendar by varying and excessive amounts; (c) We have no data for the periods covered by the proposed 28-day months.

7. The adoption of a 13-month calendar would necessitate the sending out of all monthly bills, statements, notices, etc., 13 times a year instead of 12 and would thus add 8 1/3 per cent to the clerical cost of doing business.

8. The 13-month calendar would necessitate the adoption of an entirely new set of rules and tables for the calculation of interest, discount, etc., and would add greatly to the difficulty of such calculations.

9. Under the 13-month calendar much practical information commonly used in agriculture, astronomy and navigation would have to be completely revised on a much less convenient basis than that now in use.

In the above summary I have not included all of the defects or objections to the proposed 13-month calendar, and I have included some that, for lack of time, have not been treated in detail. If I have aroused interest in the matter, so that others will give it further study, I shall be content.

In our desire to improve the calendar it seems to me that our efforts should be evolutionary rather than revolutionary; that we should strive to improve what we have by making it as convenient and as permanent as possible. With that purpose in view I am in favor of retaining our present 12-month calendar, making only such changes as are necessary to remove its most troublesome features and to make it perpetual.

WEEKLY ACCOUNTING SYSTEMS

By WALTER MITCHELL, JR.

U. S. Bureau of Foreign and Domestic Commerce

(From an address before the American Statistical Association, Philadelphia, December 28, 1933)

Discussion of the merits of calendar reform has long been confused by the unwarranted emphasis laid by certain propagandists on the fact that a small number of American businesses have adopted a 4-week period for their internal accounting. That such an accounting system is in any way equivalent to a 13-month calendar may be doubted. But it may be of general interest to know that a quite different accounting system, dividing the year into equal quarters of 4-4-5 months, is also widely used, and appears in most industries to work more smoothly and economically than the highly artificial 13-period system.

I

IN many trades the week is the most common accounting unit, and a great many reporting firms accumulate their sales totals in 4- and 5-week periods. The firm from which I am about to draw several points and suggestions operated for some time with random sequences of 4- and 5-week periods, and then standardized on a cycle of 4, 4 and 5 weeks, constituting a 13-week quarter year. Thus the individual periods and the quarters and half-year periods were comparable from year to year.

I find that variations such as a sequence of 4-5-4 and 5-4-4 weeks have been used by other firms and other trades. In any case, the firms pursuing either a random sequence or a regular cycle on this basis, seem to be better satisfied and less burdened with duplication of records than those doing business on a 13-period basis.

Even those firms which let the 5-week period fall on the month containing five Saturdays or follow some similar rule of thumb find that a 5-week period will almost never be confused with a neighboring 4-week period because the sales volume is so conspicuously different. Moreover, the average week is the most common unit of comparison and that is easily figured without recourse to a consideration of the differences between the days of the week.

If this is developed so that the 4- and 5-week periods are in a regular repeating cycle, comparisons with the previous year are always valid, and comparison with the previous month entails the adjustment of a 5-week period only once in every three months.

These firms also comment that comparable quarterly and semi-annual figures are highly desirable in connection with statements of expenses in detail and other operations summaries too cumbersome to be compiled monthly, yet important enough to deserve inspection oftener than yearly.

The concerns operating on a 13-period accounting system seem to find that within a short period after the adoption of the plan they are keeping two sets of records for a number of important figures. The desire to compare results with firms still operating on a calendar month, and the pressure on large organizations for news releases of sales volume on a calendar month basis, have generally resulted in double records of sales totals. Most of the bills payable bear a discount date set up on a calendar month basis, and even though the confusion involved is overcome, one of the 13 periods is likely to show a peculiar position in the cash account because abnormally small disbursement was made on bills payable during that period. Efforts on collection of accounts receivable should be tied closely to the payroll dates of industries in the locality served by the retail store.

All of these factors increase the bookkeeping expense by a much greater amount than 1/13th, which is commonly quoted as the only expense handicap of the plan.

The figures received from a firm operating on 4- and 5-week sequences are never noticeably out of step with calendar months. A daily average figure deduced from these can safely be combined with a daily average for another firm based upon the equivalent calendar month. For instance, a September in which we figure 26 working days might under this sequence contain 5 weeks or 30 working days. The error involved in combining two such daily averages might be computed by multiplying the 10 per cent seasonal difference between August and September by the 16 per cent of August's working days which would be included in the 5-week September period. The result would be a maximum error of 1.6 per cent in the adjusted sales figure for this particular firm and the weight of this error in the total index would be only the relative weight of that firm times 1.6 per cent. Actually, the error would be even less because the seasonal level does not suddenly jump from month to month. The last four days in August would represent a seasonal expansion of business above the average for the month and as nearly as can be estimated, the error for a single concern would therefore not exceed one-third of 1.6 per cent, or a fraction so small as to be greatly exceeded by probable errors in basic material.

The effect of payroll dates on retail trade is probably equally troublesome under any accounting system from the viewpoint of the compiler of index figures. When I first started consideration of this factor I unquestionably made partisan use of it to demonstrate the superiority of the 4- and 5-week reporting periods over the 13-month plan. Upon careful examination allowance for this factor proves equally troublesome in both cases. Grocery sales and the flow of other immediate consumption goods are decidedly better the week after payday than they are in the week before payday in cities where the leading payrolls are issued every two weeks. In the city of Washington, for instance, where government employees are paid

twice a month, firms doing business on a 13-period basis find themselves out of step with the payroll periods when cash sales and collections of accounts receivable can be most profitably pushed. Four of the 13 periods will contain one and one-half of these post-payroll weeks, while the remaining nine contain two post-payroll weeks. Inasmuch as we do not know on what days these cash sales concentrate, allowance for the error is difficult.

On the other hand, merchants doing business on a 12-month calendar are out of step in LaSalle, Illinois, where the Western Clock Company is the leading payroll and has for years operated on a 13-period basis. The occasional 5-week period, however, will contain two and one-half payroll weeks under almost any conditions.

II

This is one of the many problems which would resolve itself if everyone would shift at the same moment to 13-period accounting, but the fact remains that they will not do so. On this point I feel bound to voice a disagreement with the conclusions of the 13-month calendar advocates. They have stated in a number of publications and reports that temporary inconvenience in making the shift to a new form of calendar should not be considered at all because of its small significance in comparison to the long-time advantages.

I do not believe that convenience in making the change and long-time advantage are necessarily as inconsistent as has been inferred. Any reform is easier if it can be instituted without involving large extra costs and without a degree of confusion certain to excite opposition and emotional resistance. For instance, I understand it was found impossible to consider at present a shift of the statistics on export and import trade compiled by the Department of Commerce. It was impossible to meet the cost of producing two sets of figures, which would be necessary for an overlapping period of at least three years, in order to make a satisfactory splice between the new series and the old.

From the standpoint of retail trade, it would be relatively easy for the large chain organizations to shift to a 13-period calendar, but the process of educating independent retail merchants to such a radical change would probably be as long and unsuccessful as the efforts of the Chinese Government to substitute the Roman calendar for the Lunar calendar in the minds of the peasants and coolies.

If a shift were made to a standardized 4- and 5-week equal-quarter sequence, all of our background of previous statistics would remain usable and comparable. It seems desirable, in the interest of obtaining full consideration on such an important question, that a plan already proved satisfactory by a considerable number of banks and business firms should be described and considered. With all proper gratitude for the tireless effort

of the late Mr. Eastman in developing an international knowledge of and interest in the problem, I sometimes wonder whether his interest has not served to promote a particular form of calendar revision rather than to encourage unbiased consideration.

I believe that caution should be observed in committing American Government and business to a system likely to cause so much trouble in the transition, when a system of relatively equal advantages is available.

From the viewpoint of business statistics it appears that a unanimous agreement exists as to the desirability of inserting in the calendar a Year Day and an occasional Leap Day to avoid cycling in relation to the months, and this is a change which could be effected without prejudice to further reform at a later date. It would apparently encounter resistance only on religious grounds and from a very small minority. In business circles I believe there is also agreement upon the week as the ideal unit for record-keeping and totals, but obviously not in some industries.

If the Year Day reform were effected alone, the various possible divisions of the remaining 364 days could be worked out in the school of experience, without encountering the difficulties and the extra week every six years which are now encountered by firms following the 13-period or other weekly cycle calendar. Even for those who regard the 13-period calendar as the ultimate goal, I believe that something along the line of this general suggestion should be considered as the proper method of transition.

I have gone carefully over the two plans in published comparisons and with regard to our recent experience. In all other respects except the problem of transition, the arguments are of about equal weight on both sides. Therefore, why not present both possibilities to the business public and allow a sufficient period for the formation of mature conclusions before attempting legislative action. Should we not place more emphasis upon a point which is too frequently neglected in our economic experiments with tariffs, and prices (of gold and commodities), that the rate and method of making a change are fully as important as a status or condition. In fact, I am inclined to believe it is more important, because *change* is the order of almost everything while *status* is a fiction of the mind.

III

The advent of a National Recovery Administration, with its efforts to civilize a cannibal minority of business enterprises, and to maintain order under a system of codes, has greatly encouraged our hope for adequate statistical knowledge of industry and trade. This probably forecasts a great increase of aggregative indexes in this field, dollar and physical volume figures on industry, transportation and distribution. Hundreds of code authorities and trade associations will be faced with the problems of adjusting totals for the varying number of working days in the several

months. They will either pass through periods of tedious experiments with this and related adjustment problems or they will find themselves publishing figures with errors large enough to be distinctly misleading.

It is for this reason that I have been asked to recount some of the experiences of the Bureau of Foreign and Domestic Commerce in its recent effort to improve upon available indexes of dollar volume of retail trade.

The objective has been a better check upon the movement of goods into consumers' hands. The subject was of general interest because retail trade was an inadequately covered sector in the business panorama. It was of even more immediate interest as a check upon the effectiveness of the recovery effort in restoring the volume of retail trade. It would enable comparison of the increase in consumer expenditure with the increase in consumer income as shown by employment and payroll data.

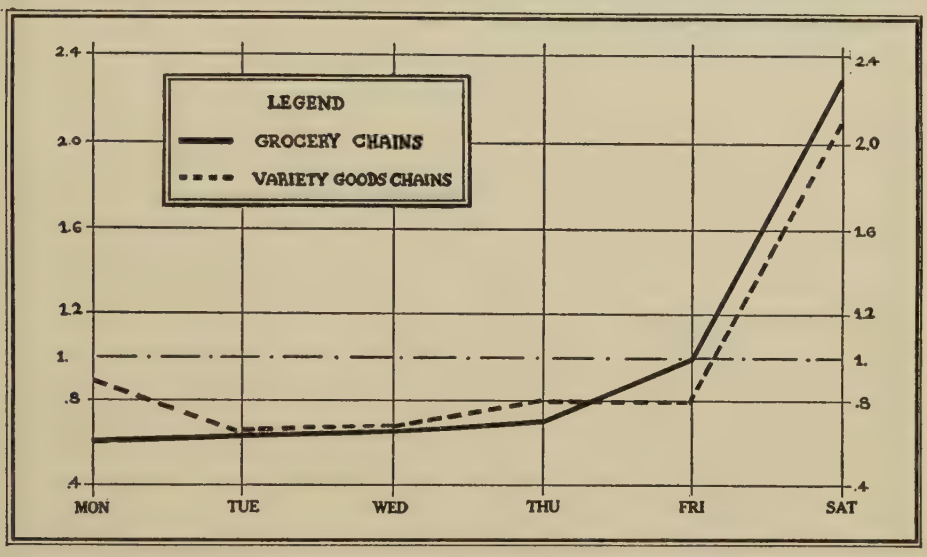
The field of retail trade offered only one thoroughly reliable report of current trends, the Department Store Index maintained by the Federal Reserve Board. Other available indexes were almost entirely based upon the total sales of large chain store organizations which had been expanding their field of operation so rapidly that the results were merely a history of a successful type of merchandising with almost no relation to the fluctuation of consumer income and purchases. It seemed almost ludicrously inconsistent to correct such figures for number of working days in order to make them represent a rate of movement when their only logical significance was a total volume of movement through a certain type of retail store. Therefore, the effort was made to set up these new indexes to represent as nearly as possible the trend of sales through a typical store.

This discussion applies particularly to the indexes for groceries and for limited price variety goods, where the reports of chain organizations continue to be the most prompt and readily available material. Special compilations by the contributing firms, giving histories of identical samples of stores, or comparative store reports, put us in a position to set up a sales aggregate which met the specification given above. Following the usual custom these aggregates were assembled in terms of average daily sales, but the days of the week were weighted in accordance with known experience of the trade, because it was found that the ordinary practice of dividing by the number of working days was likely to introduce in the result almost as great an error as it removed. Supposing all working days to be equally effective, the maximum difference would lie between a 24-day and a 27-day working month and would be about 13 per cent, while the weekly cycle in the grocery trade would cause as much as an 8 per cent discrepancy between two months having apparently the same number of working days. The equivalent maximum error in the field of variety goods would be 5.6 per cent; and in those months where the presence of a holiday complicates the weekly cycle and changes the number of working days, the

error might readily be greater. In order to make use of the daily values in building up a weighted working day value for each month, the several days are expressed as ratios to the average day rather than as percentages of the week. The following cycles are typical:

Days of Week	*Variety Store-Ratios*	*Grocery Store Ratios*
Monday	0.6	0.9
Tuesday	.7	.7
Wednesday	.7	.7
Thursday	.7	.8
Friday	1.0	.8
Saturday	2.3	2.1

It will be noted that these always total to a weight of 6.0 for the working week. These are accumulated into values for the several months by



allowing six for each full week and adding the values for the specific days in the broken week at the beginning and the end of the month. When this is done it becomes evident that two months with the same apparent number of working days may have noticeably different total weights. A month of grocery sales which included five Fridays and Saturdays, for instance, would have a weight of 24 working days plus 1.0 plus 2.3, or 27.3, whereas a month with five Mondays and Tuesdays would have 24 plus 0.6 plus 0.7, or 25.3. The difference of two days amounts to about 8 per cent.

IV

The expense involved in building up such a calendar of values, which must be done separately for each trade or industry on which an accurate

index is desired, is in itself a powerful argument for such calendar reforms as would eliminate these difficulties. However, this is only the beginning of the difficulty involved in index making in this modern period when a number of progressive business organizations have already adopted the 13-period accounting calendar. The two divisions in the Bureau which deal directly with this dissonance in accounting periods, are working models of the troubles which will soon be here in full scale.

The fact that these firms with 13-period accounting calendars constituted an important minority of the reporting group caused us to consider seriously the possibility of issuing the index numbers on a 13-period basis. This appeared quite practical until we considered the question of seasonal adjustment. Several firms were able to contribute seasonal factors on a calendar month base computed on a period of 10 to 15 years; whereas none of the operators under the 13-period calendar had employed it long enough to possess such historical material. If any one of you has ever attempted to make a direct transition from 12 seasonal factors into 13 seasonal factors I believe he will sympathize with our willingness to acknowledge defeat after we had tried all the methods we could think of.

It was therefore concluded that the indexes must be issued on a calendar month basis. This necessitated a conversion calendar for handling the figures reported by firms on a 13-period basis, in order to produce daily averages which could be combined with those on a calendar month basis.

In the variety goods trade, seasonal fluctuations are sharp enough to make carelessly combined figures a source of very significant error. The normal increase between August and September, for instance, is 10 per cent and the normal decrease from May to June is 5 per cent, both of them occurring at a period when the calendars are out of step. The most violent fluctuation, caused by December holiday trade, fortunately occurs when the two types of calendars almost exactly coincide. During about nine months in the middle of the year the 13-period calendar is radically out of step with the Roman calendar. The month of June, for instance, falls one-half in the sixth period and one-half in the seventh period. For instance, the figure received for the sixth period of 1933 would be divided by 23.3, multiplied by 15.7; the figure for the seventh period divided by 23.3, multiplied by 9.9; the two results added and the sum divided by 25.6.

This cumbersome procedure, while necessary to the accuracy of the historical or retrospect position of the index, has proved impractical in dealing with current figures for prompt release. The report for Period 7 of the 13 is not available until two weeks after June figures must be released. It is therefore necessary to estimate the sales of such firms or omit them in computing preliminary news releases. In a day when speed and accuracy of reporting are essential to guide planned economy, we should hesitate to foster even temporary lack of isochronism and accuracy.

STATISTICS AND THE CALENDAR

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(From a paper prepared for the convention of the American Statistical Association)

IN the course of the current discussion of what is termed "national recovery," the question of calendar change has come conspicuously to the front. The national recovery administration has found it desirable to collect many new classes of data, from industries which have never before reported them, or to reclassify data heretofore reported by industries which have been in the habit of stating their returns upon varying time-bases. In such circumstances, there has naturally been suggestion that one of the things that might properly be attempted by the national recovery administration would be the reduction of all these data to a common basis of reporting. Out of this, has grown the suggestion, usually produced at such times, that it might be needful to alter the calendar, in order to subserve the purposes of "statistics"; or that "statistics" would be made clearer and better, if they were computed or stated upon a basis of periods equal in monthly duration. As a result, calendar reform has as just noted again come to the front—but through indirection.

The purpose of this article is to call attention directly to the situation, and to recommend that, in whatever we do statistically, we shall bear in mind the larger implications of statistical reporting, and to analyze with care the more or less meretricious arguments of those who suggest that better statistics call for alterations in our calendar. To those who have not closely examined the situation, recommendation in favor of calendar change of this sort frequently appeals with more than its natural force because some practical purpose is sought; and there is a tendency to accept argument that a change in accustomed usage and practice would be worth while, if only for the purpose of smoothing the way to success for some statistical or allied change whose utility is certified by apparently qualified persons, but without definite assignment of advantages and disadvantages. In seeking an evaluation of the situation, from the standpoint of calendar reform as presented by the operations of sundry statistical groups collaborating with the national recovery administration, it is desirable to try to adjudge the principal factors in the present movement.

As is well known to those who have followed the development of the calendar discussion, one of the chief, if not the main, argument of persons —largely connected with industrial enterprises which have their own reasons for the change—who have sought a thirteen-month calendar, has been the alleged fact that a weekly period of reporting industrial and

business operations is highly desirable. From this, has come the corollary that a four-week period of comparison is equally as desirable as a weekly reporting unit, and from this, in turn, the conclusion that a thirteen-month year (which would permit reporting in groups of four-week periods) would be an immense help, and a corresponding saving to business. It was thus nearly inevitable that, when the task of organizing the National Recovery Administration was taken in hand, those who in the past had ineffectually attempted to carry through a policy based upon such argument should seize the occasion for another effort. Two avenues of attack have, within the past year, been more or less continuously followed in the endeavor to secure recognition of this four-week—thirteen-month alteration of existing practice.

It has been pressure from interests of the four-week reporting variety that has led the committee of the American Statistical Society on Calendar Reform to urge the adoption of their favorite method of reporting. In discussing the subject, this committee has come to the conclusion that, in view of the undertaking to reorganize and coordinate the Government Statistical Service, and of the fact that most industries are reorganizing, perhaps for the first time creating, agencies for collecting statistical information under the National Recovery Administration, there has perhaps never been a more opportune time than now to inaugurate the four-week period as a basis of such statistics and to do away with the complications caused by the fact that the month is not a multiple of the week. Hence, a recommendation to the officials of the Recovery Administration and others that four-week periods should be used for reporting industrial and trade information.

The proceedings of the Recovery Administration have not been reported to the public except unofficially. What has been done is however—and necessarily—generally known to the industries affected and has not been treated as in any way secret by them. There is, indeed, no reason why it should be, since presumably the data they file will be in a measure public records, and are at present the topics of general conversation in the several trades. The position that has been adopted by the recovery authorities has been to the effect that, for the present at least, it will be well for various types of business to accept as the time unit for their business reports, the week, the fortnight or the four-weekly period.

The only reason assigned for this decision has been the allegation that it will be easier to make comparisons between four-weekly periods in a way that would be out of the question, were the industries affected to report, as heretofore, by calendar months. Recognizing, of course, that it would have no basis in law for any such action, were it to act arbitrarily, the recovery administration has been disposed to make exceptions in those cases where there was determined resistance to its suggestions and to

permit the industries that wished, to go on reporting by monthly periods.

Carrying further the programme thus mapped out, the plans reported by various industrialists contemplate the establishment of supplementary data, arranged at the behest of the Washington authorities, for quarterly periods of thirteen weeks each. That this will cause the most tremendous confusion that has ever assailed our system of business statistics is obvious, and hence an attempt to cover up the danger likely to result from the schemes so indicated, by providing that business enterprises should for a time, prepare statistics relating to their operations on a two-fold basis—one group of figures for calendar months of the present type, the other for four-weekly periods, with a formula for the conversion of one into the other that may be used in converting returns of former years to a four-weekly basis.

The situation threatens all of our old systems of statistics, and would either subject business to an unreasonable burden through the preparation of two sets of statistics, or else (and this more likely) would soon practically compel all businesses to give up the old calendar system, since one set of figures is all that could properly be demanded. The point of view from which these demands are conceived is illustrated by the fact that many, if not most, government statisticians frankly admit that the new methods are to be undertaken with a view to the arrival of a time when there will be a general change of the calendar and presumably acceptance of the thirteen-month substitute for present arrangements.

Results of this new campaign have already been considerable. According to general information, several industries have already abandoned the calendar month as the unit for collecting employment, payroll, production, and machinery operation data, under their codes of fair competition, and have adopted, instead, the four-week period. Included in these are: various textile enterprises as well as businesses engaged in clothing production and light manufacturing generally. For employment and payroll data automobile manufacturing is said also to have followed a similar course. Industries which have adopted the week as a basis of reporting production, shipments, and other data making possible four-week comparisons include several businesses in the same general group.

Thus, from this brief sketch of what has already been done, certain things stand out as follows:

(1) A serious breach in our statistics has already been made, by encouraging and permitting industries to break away from a standard period of reporting their statistics, if only their breaking away will result in their adopting a favorite "calendar reform" method—the four-week basis for reporting, with a view to the introduction of a thirteen-month year.

(2) A dangerous division of practice has occurred whereby some

classes of data, such as production, or payrolls, are put upon a four-week basis, whereas the same industries are permitted to go on using the old basis in other data, provided only they will serve as recruits to the new method by reporting some, though not all, of their figures upon the new footing.

(3) Industries are using the weekly or fortnightly basis without being obliged to put their returns at uniform dates.

This last point ought to be very carefully considered in connection with the effort to transform our government statistical service to a basis of thirteen months reporting or even to a basis of weekly or four-weekly reporting. This is that none of the alleged advantages to follow from such a "reform" can be enjoyed by the public unless those who report in this way are induced to adopt a uniform point of departure for their reports.

As a matter of fact, administrators close to our present statistical service complain that in the introduction of the new system not a few firms are insisting upon choosing their own base for starting their weekly or four-weekly or fortnightly reports. These reports thus tend to overlap one another, thereby destroying the entire structure of alleged uniformity so strongly demanded and so highly praised.

It is also true that as experience has elsewhere shown, a good many of those very concerns which insist upon adapting their reporting periods to their own business necessities naturally want to choose a given day as the point of departure and that these days may be as various as the days in the week. There is every reason why a concern should feel at liberty to start its reporting service upon any day or date that is most convenient to it—indeed that is its primary object. But when it does so, the argument in favor of general adoption of a weekly, fortnightly or four-weekly period disappears. Instead of the desired uniformity, there is a jumble of non-comparable periods and the entire argument in favor of the change—such as it is—is nullified.

Thus is opened one of the most serious inroads, of the many of recent years, upon the availability and comparability of our business statistics; and thus there appears a threat—more menacing than any heretofore made—against the utility of such statistics in the study and forecasting of business conditions.

Some grave dangers of an immediate nature are already foreseen as the outgrowth of this situation. Because of the code system itself, a good many industries are already asserting that they do not care to go on reporting to the Federal Government at all, but will henceforward report to their own local or trade authorities—their code committees. In such cases, they will report as they see fit, and unless directly ordered by the government to use the four-week period (and, moreover, to use specific four-week periods) they will use any periods they see fit and will, in

differing cases, use differing periods of four weeks or of one week as they see fit. The present national recovery law, according to its own administrators, makes no reference to calendar reform, none to the use of any particular period for reporting, and does not create any of the various statistical "boards" which are now so puffed up with a little brief authority. As a result, it is entirely possible that our system of statistics, imperfect as it already is, will be impaired still further, by what is being done and attempted at present under a law which lays down no statistical criteria.

In reporting the results of investigations that have been made those who are advocating the four-week method of reporting have endeavored to make as good a showing as they can, but what they report is anything but satisfactory from their standpoint. An analysis of many of the codes which have been submitted is said to show that only a fraction specify for their reporting a weekly period, a few a monthly period, while most of them do not specify any period whatever. There is nothing to show a preponderating demand for the four-week period in reporting statistics; and, of course, none to exhibit a preference for the thirteen-month year. What is indicated is that, in the zeal to apply a four-week system of reporting, on the specious ground that it is easier and more natural than a monthly system, twelve months to the year, there is (as just shown) gravest danger of knocking our whole system of business statistics to pieces.

A review of what has been discussed and done by the government in the process of disorganizing our statistics now in progress, shows a curious *non sequitur* running through the whole debate. In all of the meetings and sessions that have been authentically reported, the underlying assumption has invariably been that the weekly (and then, as a derivative, the four-weekly) period has been found preferable to the calendar month as a reporting basis. Hence—without rhyme or reason—it has been inferred that, through the adoption of a four-weekly period of reporting, the way must inevitably be paved to a thirteen-month year, each month to consist of four weeks.

A representative of the American Statistical Association's Calendar Reform Committee has expressed his own view as follows:

"There are two principal defects in the present calendar; the first is that the months are of unequal length. Second, the month is not a multiple of the week. For example, February has exactly four weeks, every other month has four weeks plus two or three days. Some months have four pay-days, some five. In order to overcome these defects, a four-week system has been adopted, in some concerns—thirteen periods of four weeks. Each period has the same number of days. We feel that this system is a simplification of the calendar: and that it would be of real service and an advantage to industry as well as being an advantage to the

Government in collecting statistics. This is the basis of our report."

Here is a clear example of the subtle attempt to make it appear that, because some industries want to make business comparisons for periods including an equal number of days, there ought to be a substitution of a new calendar with all that such a change implies. It is the same old argument on an ex parte basis that has been so long and so often urged.

In order to meet the alleged convenience of statisticians, in other words, it is proposed to introduce calendar reform without congressional authority. In speaking of this situation, government officers freely admit that such an attempt is being made to "put across" calendar reform of a certain type, but they concede that there is no warrant for it in Congressional legislation, and no definite reason for believing that the weekly system of reporting necessarily leads to the abandonment of the calendar arrangements now in use. They speak of what has been, and is being done, as a "step toward calendar reform"; and, when it is pointed out that no such step has been ordered by our legislators, the only answer is a shrug of the shoulders, and the comment that this is the least of many things that are being "put across" in similar fashion. The comment may be well-founded, but is not a good reason or defense for the effort in question, or for any official or semi-official sanction for it. It is "*back-door* calendar reform," and as such is objectionable, as are all such surreptitious efforts. They are never, in the long run, successful, but they cause endless trouble and annoyance, before they are finally defeated.

Why should such a back-door type of reform be furthered or sponsored? Certainly not because it has won its way to general favor. The thirteen-month calendar is not exclusively favored by calendar students, but there is ample reason for the belief that when, and if, the calendar is altered there will be a preponderating weight of expert and intelligent opinion in favor of a twelve-month division, of the type favored by The World Calendar Association and by many others. Whether this be so or not, however, there is a sufficient body of calendar students who do not favor the thirteen-month plan to make it imperative that nothing be done to prejudge the question, or to compel or bias the judgment of the community on the whole issue. This is a point that is hardly necessary to elaborate in the *Journal of Calendar Reform,* since its readers are well aware of the facts in the case. What is worthy of special notice is the fact that there is an effort to usurp the field of calendar reform, by pretending that the only reform desired by calendar students is one which would lead to a thirteen-month year with all the grotesqueness and absurdity that is inseparable from the proposal.

Why should the public at large be compelled to take up a new civil calendar, with all the changes that that implies in the way of personal, religious, and other inconveniences and innovations in order that some

business concerns may—if such be in fact the case—be permitted a cheaper method of bookkeeping or accounting? Certainly if "statistics" and statistical requirements be, in fact, a good reason for calendar change, it should not be ordered before all types of calendar reform have had their day in court. It is not true, as careful analysis has shown, that all or more than a very moderate proportion of those firms who have considered calendar reform, are pronounced advocates of the thirteen-month arrangement, and even if they were so, the argument would still have to be met and rebutted that the community does not exist, in all its living arrangements, for the main purpose of providing perfect and simple statistics, but (quite the reverse) statistics and accounting should be the servants and not the masters of the average citizen.

Indeed, inquiry seems to show that this whole movement is the product of a very few interested firms who have been largely represented in the Statistical Association, and possibly in the recovery administration, and who are recognized by non-partisan officials as having their own axes of a business description to grind, through the use of the government's statistical arrangements. What they seek is to fulfil the purpose of furthering a socalled reform which is chiefly the product of an enthusiastic supporter, now deceased.

The proposal to foist any such movement upon the public ought not to be considered for a single moment, either by a scientific association, or by a government administrative body unless it shall prove its case in fair and open discussion, and be authorized by law.

Such arguments as have been rehearsed herein necessarily raise the question, How useful are the statistics now sought? They are apparently based upon the notion of completely altering our whole equipment in the United States.

One of the innovations usually resorted to by such "reform" organizations as the National Recovery Administration is the introduction of vast masses of varied statistics. Occasionally, the data thus collected have some value, but for a much larger part of the time, they are merely a way of "employing labor" and have no measurable worth. The data collected by the National War Industries Board during the World War cost enormously, but were in many cases of questionable utility. Indeed, it often seems that there is not the slightest use in collecting statistics until some definite call for the data required has already positively made itself felt and been estimated. When such an occasion arrives, it is feasible to get the data in a form that will be useful and to keep the expense of collection to a figure that will not be excessive as measured by the actual value of the figures when they are gathered. Be this as it may, there is, at present, an outbreak of statistical effort for no particular purpose except that of ascertaining at regular intervals, whether the oppressive restric-

tions and requirements of the national recovery program are or are not being complied with. Important steps are being taken and there is danger that they will be made the means of biasing official minds in favor of a given form of calendar alteration or of setting up a condition of affairs such that when the time comes to alter our calendar in the interests of greater simplicity there will be fresh obstacles to the adoption of the simpler and more natural changes in it on the plea that what has already been done establishes a condition adverse to any such action, and in favor of some other program which has been in contemplation. Let us see what is actually being attempted in this direction.

One of the alleged necessities of the National Recovery Administration is that of knowing exactly what is being done by the various industries that are subject to it in order that it may be possible to ascertain what the effectiveness of the various codes now being prescribed may be. Grant that this object is an important one—it still remains true that the act creating the National Recovery Administration is, by its very terms, limited to a two-year period, and that, until very lately, most of those at work for the application of the codes have admitted that the whole proceeding is temporary. If temporary, surely it would be the worst of policies to throw our whole statistical mechanism completely out of joint for the sake of advancing our convenience for a two-year period. Admit, on the contrary —as some do admit nowadays—that there is a subtle purpose to extend the present reorganization of industry over a period much longer than two years or to make it permanent, and the argument against the surreptitious type of proceeding becomes much stronger. In that case, there is no need for hasty work, but time may well be taken to find a basis of administration that will commend itself to large groups of business, and other, men as a desirable scheme for continuous application.

After all has been said and done it remains a fact that there is, and should be, no connection between statistics and accounting on the one hand, and calendar change on the other. The rank and file of the population would not consider the making of such a change on the proposed ground for a moment. They do not consider the complete transformation in many important acts of their lives which would be called for by calendar change as a moderate price to pay for the greater accounting convenience of some factory, or factories. There should be no connection, whether forced or other, between statistics and the calendar.

Statistics, moreover, is a social science, not a business subject. It deals with vital statistics, with figures affecting every individual act of human life, and, in many of its departments, the fictitious regularity and uniformity obtained through the thirteen-month year would be a positive detriment to scientific ascertainment of facts. It would certainly be so in all statistics reflecting natural phenomena, and these constitute a large

share of the entire field of statistics. The matter is now under advisement at the hands of our Statistical Association and has been considered and discussed at its current annual session. There is little prospect that the subject can be immediately disposed of, but attempt will be made to get a so-called "scientific" sanction for a thirteen-month calendar.

Clearly our Statistical Association ought to take into account this whole range of facts, even if inclined, on other grounds, to reach conclusions or tolerate methods which ought not to be considered because of their unsatisfactoriness to a large body of opposing opinion. The Statistical Association should seek a larger measure of expression on the part of its members.

The government, moreover, through its Statistical Boards, should avoid granting its aid to small groups who have their own objects to gain and who are largely concerned merely to carry out a campaign to whose success they have become committed.

GOVERNMENTAL COOPERATION URGED

From the Report of the President's Research Committee on Social Trends. Contributed by Dr. Stuart A. Rice, Assistant Director of the Census, U. S. Department of Commerce.

IT has been convincingly demonstrated that statistical errors resulting from calendar irregularities are not merely quantitative (resulting from the differing lengths of the periods into which the year is divided), but qualitative as well. That is, they result from the fact that the week-day composition of the divisions of the calendar varies within the year, and that holidays are differently distributed. It has been shown that correctional adjustments for the inaccuracies in time comparisons resulting from this irregularity are often difficult and sometimes impossible.

The importance of the question is attested by the interest in it evinced by numerous organizations, including the League of Nations, and by leading statisticians in Europe and America. A standing committee to study proposed methods of simplification has been recently created by the American Statistical Association.

It is not expected that habits of mind so thoroughly grounded in the tradition of centuries as those relating to the calendar may be lightly, easily or quickly changed. It is contended here merely that the non-comparability of many statistical data resulting from this cause should be recognized, and that the influence of the federal government and of other public bodies should be thrown wherever possible behind investigations, and behind educational movements, which may ultimately lead to its correction.

Calendar simplification could scarcely be regarded as imminent in the United States, but public emphasis upon its desirability, whenever statistical time series gathered by public agencies are involved, is of immediate importance.

It is recommended that all statistical agencies of both governmental and non-official character should wherever possible consider, and call attention to, the effects of calendar irregularities upon the accuracy and comparability of their data.

EXCERPTS AND REVIEWS

Orthodox Church on Calendar

(From the Bulletin of the Federal Council of Churches)

ARCHBISHOP GERMANOS, Metropolitan of Thyateira and one of the leading figures in the Eastern Orthodox Church, has called attention to an article published in the official organ of the Oecumenical Patriarch which approves both the proposal to stabilize the date of Easter and also the general revision of the calendar according to "the twelve-months equal-quarter plan." Archbishop Germanos definitely declares that the Eastern Church is opposed to any thirteen-month calendar. The calendar which is favored by the Eastern Orthodox Church is the type known in America as the "World Calendar."

Progress Toward Revision

(From the Information Service of the Federal Council of Churches)

PEOPLE in every part of the world, as soon as they have developed sufficiently, have made efforts to record time. Thus the formulation and revision of calendars is not a new fashion, and our present calendar is of comparatively recent origin. The Gregorian calendar now in effect in most parts of the world was first adopted in 1582. Great Britain and her colonies put it into effect in 1752. Prior to this the 25th of March had been the beginning of the New Year in England.

At various times suggestions have been made for improvements in the Gregorian calendar. The League of Nations appointed a committee of inquiry in 1923, and this committee summarized the defects of the present calendar as follows:

1. Inequality of the length of the divisions of the year—months, quarters and half-years.

2. Lack of fixity in the calendar: (a) The dates of periodical events can never be fixed with precision; (b) the position of the weeks in the quarters varies each year, that is to say, the weeks overlap the divisions of a year in a different way each time, and complications accordingly arise in the reckonings of accounts, statistics, etc.; (c) the 15th and 30th of the month are very important dates as regards the falling due and the payment of rents—when these dates are Sundays, the payments must be postponed or advanced; (d) since the various days of the week are not of the same value as regards the volume of trade, and the years and months do not from year to year include the same number of individual weekdays, there can be no genuine statistical comparison between one year and another, while the various divisions of the year itself—the half-years, quarters and months—are likewise incapable of comparison.

3. The non-fixity of Easter: the date of Easter at present varies between March 22 and April 25, or a period of 35 days, and involves a corresponding displacement of the movable festivals. Numerous disadvantages result, both from a civil and a religious point of view.

The economic and business difficulties are numerous. Measurements in connection with modern science or modern business must be constantly adjusted. For example, in measuring data reported in connection with births, marriages and deaths, the number of days in the month makes for considerable variation and increases the difficulties of making reliable comparisons. The output of a factory in February cannot be accurately compared with the January production. Throughout industry wherever monthly accomplishment is stated in terms of physical measures these difficulties arise.

The League of Nations, after examining the many plans offered, found that two plans offered sufficient advantages to warrant consideration. The first contemplates a year of 13 months. In this plan the termination of quarterly and half-yearly periods would not coincide with the termination of months, except at the end of the year, because the number of weeks in each quarter, 13, is not a multiple of the number of weeks in a month. Thus, quarterly and half-yearly statements could not be made by adding together monthly figures. This would require increased bookkeeping and a greater number of adjustments when comparing past stastistics and dates than would a 12-month calendar. The League committee recognized

that "the introduction of a year of 13 months implies comprehensive changes in long-established customs" and that superstitions regarding Friday falling on the 13th, as it would, are hard to overcome.

They also called attention frankly to the fact that any perpetual calendar interrupts, once a year and twice in leap years, the regular occurrence of Sunday. At the same time it should be noted that this does not decrease the number of Sabbaths in a year. On the contrary, if the 365th day in ordinary years and the extra day in leap years were made Sabbaths, the new calendar would increase the number of Sabbaths over those years in which the 365th day and the leap day did not fall on Sunday.

Under the plan for a year of 12 months of equal quarters, two of the months in each quarter would have 30 days and one 31 days. The quarters and half-years would be equal and they could be statistically compared without adjustments for varying lengths. The plan retains the 30- and 31-day month and would involve few changes in present habits and customs. Easter and other church festivals and fixed dates for holidays can be provided.

If there is internationally a prevailing desire for simplification of the calendar, it will be desirable to put it into effect when January 1 of the present calendar falls on Sunday. It is proposed to provide by treaty, ratified by the different governments, for the conversion of dates from the old to the new calendar, for fixing the maturity of contracts, and so on. Obviously, such arrangements are essential in connection with such an important transition as changing to a new calendar.

The movement for calendar revision has behind it substantial support.

Why Change?

(From a Brochure published by the Bureau d'Etudes Pour la Reforme du Calendrier, Paris)

CALENDAR reform is not a new question. For a century, there have been frequent proposals to submit the Gregorian calendar to a more or less complete revision.

It was in 1931 that the League of Nations formally took up calendar reform in a conference attended by delegates of 44 nations and by representatives of the churches. The League will consider this question again in 1935. Before that date, there is need to educate public opinion.

It is obvious that the present calendar has imperfections which need correction. Successive years are never exactly alike, and one cannot seriously claim that these dissimilarities bring conveniences or advantages into our lives. Much to the contrary. With a rational perpetual calendar, future reckonings, comparisons and statistics will become much more accurate than those compiled on the present basis.

In establishing such a perpetual calendar, the present calendar should be simplified rather than merely changed. To accomplish this simplification, stabilizing the year, it need only be decided that the year, which now has an uneven number of days (365), be given a more divisible number of days (364), and that the extra day (made a holiday and without a date) be stabilized and placed at the end of December. Leap Day would be placed at the end of June.

The French newspapers have frequently published brief paragraphs about a proposal to divide the year into 13 months, by adding a month called Sol. This month has naturally amused the newspaper columnists. The plan, however, is merely that of Auguste Comte, who first proposed a calendar of 13 months of 28 days with a stabilized day. It is indeed an audacious project, but one which complicates all existing habits, upsets historical dates and present-day anniversaries, without bringing any serious advantages.

It seems to us that calendar reform should have quite different ends in view. The principal ones should be: to observe astronomical laws; to preserve the divisions of the seasons; to keep the existing divisions of the quarters and half-yearly periods, so useful to numerous organizations; to build a year with the months containing the same number of working days; to stabilize the movable feasts.

The 12-month equal-quarter calendar meets all these conditions. Examining it carefully, one will notice that it is perpetual and balanced and that to accomplish this it was only necessary to give February two more days and to make slight changes in certain other months.

CURRENT PRESS COMMENT

British Action

Nottingham Guardian

The British Government, through the Home Office, has received copies of resolutions passed in the last few weeks by the Chambers of Commerce of Bradford, Wolverhampton, Gloucester, Luton, Mansfield and Dewsbury, advocating a reform of the calendar "so as to introduce a perpetual 12-months calendar."

Demand for reform is based upon the fact "that the irregularities of our present calendar cause many avoidable inconveniences to trade and industry, and vitiate all comparative statistics."

Resolutions have also been received from the Chambers of Glasgow, Dundee and Swansea, urging immediate operation of the Easter Act, which would fix Easter on the second Sunday in April. This Act was promoted by Lord Desborough, when Chairman of the London Chamber of Commerce, as a step toward calendar reform.

There is no justification for the statement recently made that the League of Nations at its meeting next year is likely to recommend a 13-month year. Not a single government has given any indication that it will press for a drastic reform of this character, to which there is widespread opposition. The 13-month scheme has met with no support from chambers of commerce or other responsible bodies in this country.

Evolution, Not Revolution

St. Paul (Minn.) Review

Calendar reform is really a very simple matter, according to Miss Elisabeth Achelis, an international leader who has been discussing this subject at Princeton.

"It does not necessitate any such obstruse inconvenience as a 13-month calendar," she explained to her collegiate audience. "It does not require complicated argument or prolonged study. The irregularities of the present calendar, which are apparent to anybody, can be simply and easily corrected without any 13th month."

She proceeded to outline the favorite and popular proposal for calendar reform, retaining the 12-month year, equalizing the quarters and making the calendar perpetual, so the year always begins Sunday.

The overwhelming argument for calendar revision is exactly this—that our most-used unit of measurement surely ought to be as simple as it can possibly be made. The irregularities of the present calendar are due to a long series of historical accidents, perversions and expressions of personal vanity. They can be easily corrected, without any such revolutionary reforms as a 13-month year. Calendar reform is an evolutionary process, not revolutionary.

Important Church Action

Joplin (Mo.) News-Herald

A considerable boost to the project of calendar reform was given the other day by the official representative of the Eastern Orthodox Church, Archbishop Germanos, when he declared that the Eastern Church, while opposed to any 13-month calendar, favors immediate revision on a 12-month equal-quarter basis.

It is important to keep in mind that the calendar we have now, and all calendars of the past, have been instituted by the church. Consequently, when a church with 140,000,000 members comes out with approval of a plan, it means something.

Favored by Arrhenius

Pathfinder Magazine

Several new calendars have been proposed, but the one most generally favored is that advocated by the late Svante Arrhenius, European scientist. This proposes a 12-month year of equal quarters.

Measure of Time

Washington Post

Adoption of a 13-month calendar now seems to be out of the question. Most of the reformers appear to be swinging to the improved 12-month calendar.

The Eastern Orthodox Church, with a membership of 140,000,000, recently endorsed the World Calendar. Its action is significant.

JOURNAL OF CALENDAR REFORM

EDITORS

CHARLES D. MORRIS CHARLES C. SUTTER

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ELISABETH ACHELIS, *President*

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PERHAPS the most important study of calendar reform yet undertaken by any impartial and scientifically-minded group is that which has been inaugurated by the American Statistical Association. The special committee which is to be appointed by the President of the Association will include spokesmen for both the 12-month and 13-month plans, but the committee's studies will be completely unbiased.

The interest of the American Statistical Association in calendar reform is of long standing. More than a year ago the Association appointed one of its former Vice-Presidents, Mr. Seymour L. Andrew of the American Telephone and Telegraph Company, as a "committee of one" to inquire whether the Association could usefully proceed with a study of this subject. Six months later the executives of the Association, after conferring with Mr. Andrew, decided that the whole subject had attained such importance, particularly in view of certain statistical aspects of the government's program for National Recovery, that it should receive a prominent place on the program of the December convention. Accordingly a committee was appointed to draft a report which would serve as a text for two round-table sessions at the Philadelphia convention. Three of the more important papers submitted at these sessions are published herewith.

Unfortunately the convention committee, hastily organized, proved to be composed mainly of advocates of a 13-month calendar, and its report (from which Mr. Andrew strongly dissented) was biased in favor of this plan. The report failed to receive the approval of the Executive Committee of the Association, which felt that the first duty of the organization was study, rather than a hasty decision to plunge headlong into an unconsidered propaganda activity.

So the old calendar reform committee was disbanded, and instructions were issued for the appointment of a new committee, now being organized, on which spokesmen for both the 12-month and 13-month plans will be placed, together with a judicial group of unbiased committeemen whose task will be to conduct research and distribute questionnaires for the purpose of ascertaining the opinion of representative business groups.

FROM THE MAILBAG

It seems to me that such a shift as you have proposed meets the necessities of the situation with a minimum of change from the present. Besides which, 12 is an easier number to divide into quarters than 13; and from a business point of view, I think would answer all the needs of which we today feel the lack in our varied system. You can put me down as being heartily in favor of your plan.—Oswald W. Knauth, Vice-Pres. R. H. Macy & Co., New York.

Personally I have always been very much interested in calendar reform. I have never enthused over the 13-month calendar because it does not lend itself to subdivision, and is therefore no great help in calculations. From all practical angles the 12-month equal quarter plan is by far the most workable and in my opinion will prove to be to all business interests and statisticians as well, the best solution. Now that we are definitely and frankly facing the fact that we can intelligently direct and remold our economic life, one of the first things to do is to simplify the time element in all our calendars. I am therefore most heartily in favor of the movement.—J. Anton de Haas, William Ziegler Prof. International Relationships, Harvard University.

I think you present sound arguments in favor of retaining the 12-month calendar. —Robert Hunt Lyman, Editor World Almanac, New York.

Shall try my best to get people interested in this study in my country.—C. C. Chang, Bank of China, Shanghai.

The plan seems sensible and in the line of simplification.—P. S. Du Pont, Wilmington, Del.

I agree with you that the calendar should be simplified and that the people who oppose reasonable reform are stupid, —perhaps fanatical.—Charles W. Gerstenberg, Chairman of Board, Prentice-Hall Publishers, New York.

Endorsement by this organization of your main proposals is assured. You may rely on my personal support.—Major E. N. Cooke Rogers, French Universities Post of American Legion, New York.

I most unhesitantly want to state that if a general change is to be made in calendars, a 13-month year will not receive favorable consideration.—Alf. P. van Someren, Secy. Canadian Order of Foresters, Brantford.

Calendar reform is a most important need for all interests and President Roosevelt should make it a part of the new deal effective immediately.—T. O. Kennedy, Electric Light and Power Co., Cleveland.

The proposed World Calendar is fascinating and there is no escape from its conclusions. I have unbounded admiration for people who continue to drive along new roads and I have lived long enough to know that the reward often comes at the least expected moment. May such be your fortune.—Herbert C. Parsons, Exec. Secy. Mass. Child Labor Committee, Boston.

In the Journal of Calendar Reform, Mr. P. W. Wilson has set down clear and convincing proofs—the most forcible I have yet seen—for world calendar reform. He has disposed of the chief objections raised in many quarters. His summations for the parliamentarian under eight heads is admirably well done. The whole article, like all that Mr. Wilson does, is of the first order and must appeal to its reader.—Rev. Morgan M. Sheedy, Cathedral Rectory, Altoona, Pa.

I am in favor of the change.—John G. Glover, Prof. School of Commerce, New York Univ., New York.

Am heartily in sympathy with the stand taken by Arthur S. Hamilton, editor of the Fraternal Monitor, relative to a proposed change in the present calendar. In my judgment a 13-month year would work a great hardship on fraternal insurance organizations and involve heavy additional expense.—Frank W. Hough, Secy. Fidelity Life Assn., Fulton, Ill.

For some time I have been receiving the Journal of Calendar Reform. I was particularly interested in David Thibault's "Story of the Calendar."—R. T. Barrett, Editor Telephone Almanac, American Tel. and Tel. Co., New York.

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